

Bellwork: 12/3/12

Find the equation of ~~the~~ line perpendicular to $2x-3y=9$ that goes through the point $(-4, -5)$

$$\begin{aligned} 2x - 3y &= 9 \\ -3y &= -2x + 9 \\ \frac{-3y}{-3} &= \frac{-2x + 9}{-3} \\ y &= \frac{2}{3}x - 3 \end{aligned}$$

$$\begin{aligned} m_{\perp} &= -\frac{3}{2} \\ y + 5 &= -\frac{3}{2}(x + 4) \\ y + 5 &= -\frac{3}{2}x - 6 \\ y &= -\frac{3}{2}x - 11 \end{aligned}$$

Factoring Steps:

1) G.C.F. - greatest common factor

2) Special cases

→ D.O.T.S. - difference of 2 squares

→ P.S.T. - perfect square trinomial

→ Sum/difference of cubes

3) Grouping method

4) General method

$$\begin{array}{l} 4x^2 - 9 \\ 4x^2 + 20x + 25 \\ x^3 - 8 \\ x^3 + 8 \end{array}$$

Factoring by GCF:

1) $3x^3 - 6x + 9$
 $3(x^3 - 2x + 3)$

2) $12x^2y^3 - 24xy^2$
 $12xy^2(xy - 2)$

$$3) 15x^3 + 10x^2 - 5x$$

$$5x(3x^2 + 2x - 1)$$

$$4) -12x^3y^2z - 6x^2y^2z$$

$$-6x^2y^2z(2x + 1)$$

$$5) 3x(\underline{5x+7}) + 4(\underline{5x+7})$$

$$(5x+7)(3x+4)$$

$$6) (2x+4)3 - 5x(2x+4)$$

$$(2x+4)(3-5x)$$

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